REMARKS

The action by the Examiner of this application, together with the cited references, have been given careful consideration. Following such consideration, claim 1 has been amended to more clearly define the patentable invention applicant believes is disclosed herein. Moreover, claim 2 has been canceled. Claims 3-4 are amended for minor informalities. Claims 5-7 are unchanged by the present amendment. It is respectfully requested the Examiner reconsider the claims in their present form, together with the following comments, and allow the application.

The Examiner has rejected claims 1-7 as being anticipated by Hind (U.S. Patent No. 3,970,283), and has rejected claims 1-7 as being obvious in view of the combined teachings of Hind and European Patent Document No. 0 149 164 (EP '164).

It is respectfully submitted that neither Hind nor EP '164, taken individually or in combination, teach or suggest the applicant's invention as presently defined by claims 1 and 3-7. It should be noted that independent claim 1 has now been amended to incorporate limitations from dependent claim 2 (now canceled).

The Examiner has noted in his Response to Arguments that "neither the instant specification or the claims give any clear and definite recitation as to what extent a material must be able to deform in order to be considered 'deformable.'"

While it is acknowledge that there is no explicit definition of the word "deformable" in the specification of the application, it is respectfully submitted that it is clear from the specification in its entirety that the "deformability" of the interface zone is increased at elevated temperatures during metal teeming. Moreover, it is disclosed that the "deformability" is such that it "provides a buffer against sudden differential thermal stresses, thereby minimizing the risks of micro-crack fracture through the body portion due to thermo mechanical stresses during pre-heat and at the start of the casting operation" (see specification page 4, lines 21 *et seq.* and page 5 lines 1-10). At cool ambient temperatures, however, the interface zone "ensures structural integrity of the assembled refractory device" (see last paragraph on page 4 of the specification).

From the above-identified disclosure it is respectfully submitted that it follows clearly that the term "deformable" means that the "deformability" of the interface zone is higher at the casting operation and lower at ambient temperatures.

Contrary to the present invention, Hind discloses a sliding gate valve assembly including a layer 15 – arranged between a refractory casting 14 and a member 12, featuring the sliding plate 10 – and a further layer – arranged between a liner 22 of the collector nozzle 11 and a nose 20 of the inner wall 21 of the casting 14 – each made of a cement. Hind teaches that said cement shall be "sufficiently weak to allow the liner 22 to be removed for replacement thereof" (column 2, lines 50-52). In other words, during teeming-operation the cement must be strong enough to maintain the diametrical integrity of the sliding gate valve, but at ambient temperatures the cement must be weak to allow the liner 22 to be removed for replacement thereof.

FIG. 2 of Hind shows that (a) cement layer 15 and (b) the cement layer between the liner 22 and the inner wall 21, are integral. Moreover, it is respectfully submitted that a person of ordinary skill in the art would recognize that both cement layers must be of the same material, as the nose 20 would be strongly stressed if its upper part and its lower part would be connected to the sliding gate by different cement-types (featuring different physical features, as for example thermal expansion).

It is respectfully submitted that Hind fails to teach or suggest to one of ordinary skill in the art that the "deformability" shall rise with rising temperatures. In contrast, Hind teaches decreasing the stability (and thus to increase the deformability) of the cement at ambient temperatures.

With regard to EP '164, it is respectfully submitted that it would not have been obvious to one of ordinary skill in the art to take the mortar of EP '164 as a cement that might be used in connection with Hind's sliding gate assembly. In this regard, the mortar of EP '164 would not be weak at ambient temperatures, but rather, deformable only at temperatures between 1100° Celsius to 1500° Celsius.

With regard to the limitations of claim 2 (now canceled) that have been incorporated into claim 1, it should be appreciated that the interface zone becomes deformable

only at temperatures far above ambient temperatures, and that the interface zone is structurally solid at ambient temperatures and not weak.

In view of the foregoing, it is respectfully submitted that neither Hind nor EP '164 taken individually or in combination, teach or suggest the claimed invention as defined by amended claim 1. Moreover, it is respectfully submitted that claims 3-7, that depend from claim 1, are likewise patentable over the prior art. Accordingly, it is respectfully submitted that the application is now in condition for allowance.

The Examiner is invited to contact the undersigned for a telephone interview in the event that any outstanding issues remain for putting the application in condition for allowance.

If there are any fees necessitated by the foregoing communication, please charge such fees to our Deposit Account No. 50-0537, referencing our Docket No. BE7344PCT(US).

Respectfully submitted,

Date: November 12, 2003

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I hereby certify that this correspondence (along with any paper referenced as being attached or enclosed) is being deposited on the below date with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: November 12, 2003

Crystal Belknap